

PATENT  
Atty. Dkt. No. ATT/2002-0457**RECEIVED**  
**CENTRAL FAX CENTER**  
**MAR 20 2008****REMARKS**

In view of the following discussion, the Applicants submit that none of the claims now pending in the application are indefinite under the provisions 35 U.S.C. § 112 and obvious under the provisions 35 U.S.C. § 103. The Applicants herein amend claim 6. Thus, the Applicants believe that all of these claims are now in allowable form.

**I. REJECTION OF CLAIMS 6-10 UNDER 35 U.S.C. § 112**

The Examiner rejected claims 6-10 under the provisions 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Although Applicants do not believe that use of the term "for" is indefinite, the Applicants nevertheless amended the claims as suggested by the Examiner. Specifically, Applicants have amended claim 6 to recite "to provide" instead of "for providing". As such, the Applicants respectfully request the rejection be withdrawn.

**II. REJECTION OF CLAIMS 6-10 UNDER 35 U.S.C. § 103****A. Claims 6-7**

The Examiner rejected claims 6-7 as being unpatentable under 35 U.S.C. § 103 over U.S. Patent Publication 2004/0003004, published on January 1, 2004, hereinafter referred to as "Chaudhuri" in view of U.S. Patent Publication 2004/0111408, published on June 10, 2004, hereinafter referred to as "Caudill." The Applicants respectfully traverse the rejection.

Chaudhuri teaches time-bound database tuning. Chaudhuri teaches time-bound tuning in database system using a query language such as Structured Query Language (SQL). (See Chaudhuri, para. [0025]).

Caudill teaches a method and system of ranking and clustering for document indexing and retrieval. Caudill teaches a method that represents text in the form of numerical values. (See Caudill, para. [0009]). Queries are converted into ontology-based predicate structures and compared against

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documents which have been previously parsed for their ontology-based predicates to obtain the best possible matching documents. (See *Id.* at para. [0044]).

The Examiner's attention is directed to the fact that Chaudhuri and Caudill, alone or in any permissible combination, fail to teach or suggest a method to provide a data management system comprising receiving a query having aggregation constraints, wherein said aggregation constraints are Optimization under Parametric Aggregation Constraints (OPACs), as positively recited by the Applicants' independent claim 6. Specifically, independent claim 6 positively recites:

6. A method to provide a data management system, comprising:  
preprocessing a database having a relation to produce an index,  
wherein said preprocessing step comprises:  
identifying a dominating vector of constants,  $\bar{c}$ , for a given n-dimensional vector of constants  $\bar{c}$ ;  
receiving a query having aggregation constraints, wherein said aggregation constraints are Optimization under Parametric Aggregation Constraints (OPACs);  
applying said index to look up a result in response to said query having aggregation constraints; and  
providing said result (Emphasis added).

In one embodiment, the Applicants' invention teaches a method to provide a data management system comprising receiving a query having aggregation constraints, wherein said aggregation constraints are Optimization under Parametric Aggregation Constraints (OPACs). For example, the dominating vector of constants  $\bar{c}$  can be identified that may correspond to an OPAC query having the maximum profit. (See e.g., Applicants' specification, paragraphs [0059-0063], [0067]).

In contrast, Chaudhuri and Caudill, alone or in any permissible combination, fail to teach or suggest a method to provide a data management system comprising receiving a query having aggregation constraints, wherein said aggregation constraints are Optimization under Parametric Aggregation

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Constraints (OPACs). The Applicants respectfully submit that Chaudhuri and Caudill, alone or in any permissible combination, fail to teach or suggest a query having Optimization under Parametric Aggregation Constraints (OPACs), as noted by Examiner in the office action. (See Office Action, page 5, Response to Argument).

In addition, the Applicants respectfully submit that Chaudhuri and Caudill cannot be meaningfully combined because they teach mutually exclusive querying methods. For example, Chaudhuri teaches searching a database using a query language such as SQL. (See Chaudhuri, para. [0025]). In stark contrast, Caudill teaches searching for documents using ontology-based predicate structures. (See Caudill, para. [0044]). The Applicants respectfully submit that the use of vectors taught by Caudill cannot be combined with Chaudhuri's use of query languages such as SQL. Therefore, the combination of Chaudhuri and Caudill fails to make obvious Applicants' independent claim 6.

Furthermore, dependent claim 7 depends from independent claim 6 and recites additional limitations. For the same reasons discussed above, dependent claim 7 is also not made obvious in view of Chaudhuri and Caudill and is allowable. As such, the Applicants respectfully request the rejection be withdrawn.

B. Claims 8-10

The Examiner rejected claims 8-10 in the Office Action under 35 U.S.C. §103 as being unpatentable over Chaudhuri in view of Caudill and in further view of U.S. Patent No. 6,122,628, issued on September 19, 2000, hereinafter referred to as "Castelli." The Applicants respectfully traverse the rejection.

The teachings of Chaudhuri and Caudill are discussed above. Castelli teaches multidimensional data clustering and dimension reduction for indexing and searching. (See Castelli, Abstract).

The Examiner's attention is directed to the fact that Chaudhuri, Caudill and Castelli, alone or in any permissible combination, fail to teach or suggest the novel method to provide a data management system comprising receiving a

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query having aggregation constraints, wherein said aggregation constraints are Optimization under Parametric Aggregation Constraints (OPACs), as positively claimed by the Applicants. (See *supra*).

As discussed above, Chaudhuri and Caudill, alone or in any permissible combination, fail to teach or suggest a method to provide a data management system comprising receiving a query having aggregation constraints, wherein said aggregation constraints are Optimization under Parametric Aggregation Constraints (OPACs). Moreover, Castelli fails to bridge the substantial gap left by Chaudhuri and Caudill because Castelli also fails to teach or suggest a method to provide a data management system comprising receiving a query having aggregation constraints, wherein said aggregation constraints are Optimization under Parametric Aggregation Constraints (OPACs). Castelli only teaches multidimensional data clustering and dimension reduction for indexing and searching. (See Castelli, Abstract). Thus, for all of the above reasons, the Applicants respectfully contend that claim 6 of the present invention is not made obvious by the combination of Chaudhuri, Caudill and Castelli.

Furthermore, dependent claims 8-10 depend, either directly or indirectly, from claim 6 and recite additional limitations. As such, and for the exact same reason set forth above, the Applicants submit that claims 8-10 are also patentable and not made obvious by the teachings of Chaudhuri, Caudill and Castelli. As such, the Applicants respectfully request the rejection be withdrawn.

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**CONCLUSION**


Thus, the Applicants believe that all these claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring the issuance of a final action in any of the claims now pending in the application, it is requested that the Examiner telephone Mr. Kin-Wah Tong, Esq. at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully Submitted,

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